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Application No. : Not Yet Assigned Confirmation No. : Not Yet Assigned
First Applicant : Frederik Wittkampf Art Unit : Not Yet Assigned
Filed : Herewith Examiner : Not Yet Assigned
Title : Catheter and method, in particular for ablation and like technique
Docket No. : 0B-049910US
Customer No. : 55714

Mail Stop PCT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Preliminary Amendment

Sir:

Please enter this preliminary amendment before commencing substantive examination of the captioned application:

Amendment to the Specification being on page 2 of this paper.

Amendment to the Claims are reflected in the listing of claims that begins on page 3 of this paper.

Remarks/Arguments begin on page 6 of this paper.

Respectfully submitted this 28th day of April 2006.



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Amendments to the Specification

After the title and before the first paragraph, insert the following:

CROSS-REFERENCE TO RELATED APPLICATIONS

This application is a national stage filing based upon international application no. PCT/NL2004/000741, filed 20 October 2004 and published in English on 02 June 2005 under international publication no. WO 2005/048858 (the '741 application), which claims priority to Dutch application no. 1024658, filed 29 October 2003 (the '658 application). The '741 application and '658 application are both hereby incorporated by reference as though fully set forth herein.

Amendments to the Claims

The following listing of the claims replaces all prior versions and listings of the claims in the application:

Listing of Claims

1. (Currently amended) A catheter, provided with an elongated body with an electrically conductive first end, wherein through said body extends at least one live wire, extends which is connected to said first end, and a channel for feeding a cooling fluid through said body, which channel is provided, in or near said first end, with at least one outlet opening; and wherein, in said first end, a temperature sensor has been arranged; [[.]] and wherein while said channel is thermally insulated from said first end.
2. (Currently amended) The [[A]] catheter according to claim 1, wherein said at least one outlet outflow opening is provided in said first end.
3. (Currently amended) The [[A]] catheter according to claim 1, wherein said channel has a longitudinal direction and wherein said at least one outlet opening comprises is provided with a series of outlet openings, which outlet openings are arranged such that, during use, cooling fluid supplied through said channel flows out through said outlet openings in an outflow direction which is angled with respect to included an angle with said longitudinal direction.
4. (Currently amended) The [[A]] catheter according to claim 3 1 or 2, wherein the outlet openings are provided with a thermally insulating inside casing.
5. (Currently amended) The [[A]] catheter according to claim 1 any one of the preceding claims, wherein said at least one outlet opening is provided in said body, adjacent said first end.

6. (Currently amended) The [[A]] catheter according to claim 1 any one of the preceding claims, wherein said first end is attached to said body, wherein said temperature sensor is provided in said first end, at a distance from an interface formed between said body and said first end.

7. (Currently amended) The [[A]] catheter according to claim 3 any one of the preceding claims, wherein the outlet openings are designed such that cooling fluid flowing therefrom during use flows away from said first end.

8. (Currently amended) The [[A]] catheter according to claim 1 any one of the preceding claims, wherein said first end has at least one metal outside.

9. (Original) A method for thermal treatment, in particular ablation, wherein a catheter with an electrically conductive first end is provided in a body cavity, with said first end near or, preferably, against a wall of said body cavity, while at a distance from said first end a complementary electrically conductive element is arranged, preferably outside the body in which said cavity is located, whereupon an electric current is generated between said first end and said conductive element, such that said wall is heated, whereupon, adjacent said first end, a cooling fluid is dispensed, while the temperature of said first end is measured and is regulated, while direct cooling of said first end from the inside thereof by said cooling fluid is prevented.

10. (Currently amended) The [[A]] method according to claim 9, wherein said cooling fluid, through a channel in said catheter, is supplied and dispensed in said a protein containing liquid, while said cooling fluid in said catheter is separated from at least said first end through thermal insulation.

11. (Currently amended) The [[A]] method according to claim 9 or 10, wherein the cooling fluid is dispensed in a protein containing liquid such as blood around said first end such that said protein containing liquid is cooled with the aid of said cooling

fluid adjacent an interface between said protein containing liquid and said wall and near the outside of said first end and is kept at a temperature below the coagulation temperature of said protein containing liquid.

12. (Currently amended) The [[A]] method according to claim 9 any one of claims 9-11, wherein said ablation is performed in a body cavity wherein as liquid, blood is present, while the temperature of said blood is kept at a temperature below approximately 55°C and the temperature of said first end is regulated such that it remains below approximately 65°C.

13. (Currently amended) The [[A]] method according to claim 9 any one of claim 9-12, wherein the [[as]] cooling fluid comprises a physiological salt solution is used, wherein the physiological salt solution which is introduced into said protein containing liquid such that, around said first end, turbulence occurs in said protein containing liquid.

14. (New) A catheter comprising the following:
an elongated body with an outer surface and an electrically-conductive first end;
at least one live wire extending through said elongated body, said at least one live wire being connected to said electrically-conductive first end;
a channel extending through said elongated body, said channel being adapted to deliver a cooling fluid through said elongated body;
at least one thermally-insulated outlet opening extending from said channel to said outer surface of said elongated body at or near said electrically-conductive first end;
and
a temperature sensor arranged in said first end.

15. (New) A catheter according to claim 14, wherein said channel has a longitudinal axis, wherein said at least one thermally-insulated outlet opening comprises a series of outlet openings adapted to deliver said cooling fluid toward said outer surface

of said elongated body in an outflow direction, and wherein said outflow direction is at an angle relative to said longitudinal axis.

16. (New) A catheter according to claim 15, wherein said at least one thermally-insulated outlet opening comprises a thermally-insulating inside casing.

17. (New) A catheter according to claim 14, wherein said at least one thermally-insulated outlet opening is provided in said elongated body, adjacent to said first end.

18. (New) A catheter according to claim 14, wherein said first end is attached to said elongated body, wherein said temperature sensor is provided in said first end at a distance from an interface formed between said elongated body and said first end.